Release Notes for Vintage 2010 Estimates

Updated January 2014

The Vintage 2010 population estimates include estimates for the national, state, county and subcounty (incorporated places and minor civil divisions) levels of geography and the Puerto Rico Commonwealth. National, state, and county estimates include age, sex, race, and Hispanic origin detail. The Vintage 2010 housing unit estimates include estimates for the nation, states, and counties. One reason for producing the Vintage 2010 estimates is to allow for comparisons with the 2010 Census. Therefore, estimates for April 1, 2010 are included in the ten-year time series rather than just July 1 as in the other years.

These estimates reflect three major improvements in the Administrative Records estimates methodology for the production of the national, state, county, and Puerto Rico total population estimates. In summary, these improvements include changes in: 1) the estimation of net native migration for the nation, states, and counties; 2) the estimation of deaths by age, sex, race, and Hispanic origin for the nation; and 3) the estimation of net international migration for Puerto Rico.

We produced alternative sets of estimates to show the effect on the estimates of special censuses and challenges. The alternative estimates were produced using the standard methodology, but without the incorporation of special censuses and challenges.

We based all Vintage 2010 estimates on Census 2000 and created them without knowledge of the Census 2010 results.

Improvements

1. Estimation of Net Native Migration for the Nation, States, and Counties

For Vintage 2010, we updated our estimate of the net migration of natives (a component of net international migration). The revised estimate incorporates more extensive and recent data.

In Vintage 2009, we based our estimate of the net migration of natives on levels observed in the 1990s.[1] The estimate was developed using data from the State Department and census data from 16 countries. We estimated net native migration by using the change in the stock of the U.S. native population in consecutive censuses and included a modification for net native migration to and from other countries.

The updated Vintage 2010 estimate of net native migration incorporates data from 84 countries including more recent data where possible.[2] As in Vintage 2009, net native migration is based on the change in stock of U.S. natives in consecutive censuses for each of the countries included in the research.

2. Estimation of Deaths by Age, Sex, Race, and Hispanic Origin for the Nation

The Vintage 2010 improvement in the estimation of national deaths by age, sex, race, and Hispanic origin completes enhancements begun in Vintage 2009 processing.

In Vintage 2009, we improved the distribution of deaths for the population aged 70 and over.[3] Prior to these enhancements, the number of deaths occurring to age groups was determined by a fixed schedule of mortality rates developed in the late 1990s, controlled only to the total number of deaths

reported by the National Center for Health Statistics (NCHS). For Vintage 2010, we adopted the use of actual reported deaths by single year of age (0 to 69) and aged 70 and over for large race and Hispanic origin categories. The latter were then distributed by age using age-specific death rates derived from a mid-decade life table (2005) adopted from the Office of the Actuary of the Social Security Administration.[4]

3. Estimation of Net International Migration for Puerto Rico

For Vintage 2010, we developed the estimate of net international migration for Puerto Rico using data from the American Community Survey (ACS) and Puerto Rico Community Survey (PRCS). The methodology used is similar to that used for the United States.[5,6] Net migration between Puerto Rico and the United States is estimated in two parts, immigration and emigration. A respondent's current residence is compared to his or her residence one year ago to ascertain migration status. Those living in Puerto Rico who lived in the United States one year ago are considered immigrants to Puerto Rico. Those living in the United States who lived in Puerto Rico one year ago are considered emigrants from Puerto Rico. We calculate net migration by subtracting emigrants from immigrants. For 2000 through 2004, when data from the PRCS were not available, a base estimate of net migration between the United States and Puerto Rico for 2000 was established and a linear interpolation between the 2000 net estimate and the 2005 net estimate was used to generate estimates for 2001 through 2004. For 2000 to 2005, estimates of migration for the group quarters population were calculated by multiplying the household component for those years by the ratio of group quarters to household net migration for 2006 to 2009.

Estimation of April 1, 2010 Resident Population for the Nation, States, and Counties, and Subcounty Areas, and of April 1, 2010 Housing Units for States and Counties

For Vintage 2010, we updated our current methodology to produce population estimates as of April 1, 2010, in order to allow for direct evaluation with Census 2010 population counts. For the state and county levels we utilized our standard methodology to produce annual July 1, 2000 to July 1, 2010 population estimates based on the updated Census 2000 data and the components of change (births, deaths, international migration, and domestic migration) occurring each year. To estimate the April 1, 2010 population, we began with the July 1, 2009 population and estimated the components of change that occurred in the intervening nine months.

For the subcounty population estimates (incorporated places and minor civil divisions) we utilized our standard methodology to produce annual July 1, 2000 to July 1, 2010 population estimates based on the updated Census 2000 data, housing unit estimates, group quarters estimates, and county-level household population totals. To estimate the April 1, 2010 population, we used housing unit and group quarters estimates developed for April 1, 2010, and the Vintage 2010 April 1, 2010 county-level household population estimates. To estimate the April 1, 2010 housing units and group quarters population, we began with the July 1, 2009 estimates and added three fourths of the estimated July 1, 2009 to July 1, 2010 change.

April 1, 2010 housing unit estimates for states and counties were calculated by summing the April 1, 2010 subcounty housing unit estimates to each higher level geography.

Geographic Base

The geographic base for the 2010 estimates reflected legal boundary changes that were effective as of January 1, 2010. Counties and statistically equivalent areas in the Vintage 2010 estimates exactly matched the inventory of published 2010 tabulations for these areas while the subcounty areas did

not exactly match the published 2010 Census results for a small number of areas. These differences resulted from the processing of late arrivals to the Boundary and Annexation Survey and other geographic updates through the end of December 2010. These latter revisions were missing from the 2010 estimates base that the Population Estimates Program received during July 2010. We did not include any of these final changes, therefore some variability is to be expected based on geographic differences alone. These included 24 records present in the 2010 Census whose changes were processed too late to be included in the Vintage 2010 estimates. Conversely, there were 34 records present in the Vintage 2010 estimates base that were deleted or modified during the final geographic revisions for the 2010 Census. A list of these areas is included in this document (Appendices A and B) to inform users who may be attempting to compare the 2010 subcounty evaluation estimates with the 2010 Census results.

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[1] Gibbs, J., G. Harper, M. Rubin, and H. Shin, 2003, "Evaluating Components of International Migration: Native-Born Emigrants," Population Division Working Paper No. 63
http://www.census.gov/population/www/documentation/twps0063.html.

[2] Schachter, J. 2008. "Estimating Native Emigration from the United States," Memorandum dated December 24, delivered to the U.S. Census Bureau.

[3] This methodology is described in Vintage 2009 Release Notes, which can be accessed at:
http://www.census.gov/popest/methodology/2009-est-relnotes.pdf.

[4] The life table and associated documentation are located at:
http://www.ssa.gov/policy/docs/statcomps/supplement/2009/4c.html#table4.c6.

[5] For the methodology used in Vintage 2009, see *Methodology for the Puerto Rico Commonwealth and Municipio Population Estimates by Age and Sex (Vintage 2009): April 1, 2000 to July 1, 2009,* which can be accessed at:
http://www.census.gov/popest/methodology/2009-pr-meth.pdf.

[6] This methodology is described in *Methodology for the United States Resident Population Estimates by Age, Sex, Race, and Hispanic Origin (Vintage 2009): April 1, 2000 to July 1, 2009*, which can be accessed at:
http://www.census.gov/popest/methodology/2009-nat-meth.pdf.

Appendix A

Twenty-Four Records Present in the 2010 Census Whose Changes were Processed too late to be Included in the Vintage 2010 Estimates

Summary Level	Census Region Code	Census Division Code	State FIPS Code	County FIPS Code	Minor Civil Division FIPS Code	Place FIPS Code	Consolidated City FIPS Code	Area Name
157	2	3	17	031	00000	17523	00000	Crete village (pt.)
071	2	3	17	031	06561	17523	00000	Crete village (pt.)
071	2	3	17	097	43263	31121	00000	Grayslake village (pt.)
071	2	3	17	197	49958	17523	00000	Crete village (pt.)
172	2	3	18	000	00000	42426	36000	Lawrence city
071	2	3	18	063	08308	60192	00000	Pittsboro town (pt.)
071	2	3	39	089	43456	09890	00000	Buckeye Lake village (pt.)
071	2	3	39	089	43456	99990	00000	Balance of Licking township
061	2	3	39	099	26072	00000	00000	Fairfield township
071	2	3	39	099	26072	17036	00000	Columbiana city (pt.)
061	2	3	55	059	09800	00000	00000	Bristol village
071	2	3	55	059	09800	09800	00000	Bristol village
061	2	4	27	137	39538	00000	00000	Makinen UT
071	2	4	31	175	34860	37280	00000	Ord city (pt.)
061	2	4	46	071	45565	00000	00000	Northeast Jackson UT
157	3	5	13	147	00000	45460	00000	Lavonia city (pt.)
157	3	5	37	085	00000	05040	00000	Benson town (pt.)
157	3	6	01	009	00000	76680	00000	Trafford town (pt.)
157	3	6	47	047	00000	16420	00000	Collierville town (pt.)
157	3	7	40	087	00000	47150	00000	Maysville town (pt.)
162	3	7	48	000	00000	70052	00000	Staples city
157	3	7	48	187	00000	70052	00000	Staples city
157	3	7	48	497	00000	69800	00000	Springtown city (pt.)
157	4	9	02	220	00000	99990	00000	Balance of Sitka City and Borough

Appendix B

Thirty-Four Records Present in the Vintage 2010 Estimates Base that were Deleted or Modified During the Final Geographic Revisions for the 2010 Census

Summary Level	Census Region Code	Census Division Code	State FIPS Code	County FIPS Code	Minor Civil Division FIPS Code	Place FIPS Code	Consolidated City FIPS Code	Area Name
071	1	2	42	049	24000	99990	00000	Balance of Erie city
071	2	3	17	167	03506	72000	00000	Springfield city (pt.)
071	2	3	17	167	64772	72000	00000	Springfield city (pt.)
071	2	3	18	089	11476	68220	00000	Schererville town (pt.)
071	2	3	39	045	41740	99990	00000	Balance of Lancaster City township
061	2	3	39	099	17036	00000	00000	Columbiana city
071	2	3	39	099	17036	17036	00000	Columbiana city (pt.)
071	2	3	39	103	48848	99990	00000	Balance of Medina City township
071	2	3	55	059	09825	09800	00000	Bristol village
071	2	3	55	059	09825	99990	00000	Balance of Bristol town
071	2	4	20	161	44125	52275	00000	Ogden city (pt.)
061	2	4	27	137	01565	00000	00000	Angleworm Lake UT
061	2	4	27	137	04208	00000	00000	Bear Head Lake UT
061	2	4	27	137	13626	00000	00000	Crab Lake UT
061	2	4	27	137	14778	00000	00000	Dark River UT
061	2	4	27	137	28259	00000	00000	Heikkala Lake UT
061	2	4	27	137	30616	00000	00000	Hush Lake UT
061	2	4	27	137	36075	00000	00000	Leander Lake UT
061	2	4	27	137	37384	00000	00000	Linwood Lake UT
061	2	4	27	137	40624	00000	00000	Marion Lake UT
061	2	4	27	137	44714	00000	00000	Mud Hen Lake UT
061	2	4	27	137	50643	00000	00000	Pfeiffer Lake UT
061	2	4	27	137	50730	00000	00000	Picket Lake UT
061	2	4	27	137	60888	00000	00000	Slim Lake UT
061	2	4	27	137	63246	00000	00000	Sturgeon River UT
061	2	4	27	137	63516	00000	00000	Sunday Lake UT
061	2	4	27	137	64886	00000	00000	Tikander Lake UT
061	2	4	38	083	13310	00000	00000	Central Sheridan UT
061	2	4	46	071	17830	00000	00000	East Jackson UT
162	3	5	51	000	00000	03000	00000	Arlington CDP
157	3	5	51	013	00000	03000	00000	Arlington CDP
157	3	6	21	097	00000	17434	00000	Corinth city (pt.)
162	3	7	40	000	00000	03550	00000	Avard town
157	3	7	40	151	00000	03550	00000	Avard town